

CLAIMS

1. A flexible or pliable closed cell foam material in sheet form for forming at least part of a garment, characterised in that the foam material has one or more slits or cuts and/or needle-punched holes therein extending through the sheet from one surface to the other.
2. A foam material as claimed in claim 1, in which the foam material is buoyant in water.
3. A foam material as claimed in claim 1 or 2, in which the slits or cuts and/or needle-punched holes are selected to be of a spacing and/or selected to be each of a shape and/or size and/or length as to minimise or not adversely affect the strength and/or shrinkage rate of the foam sheet such as regards the subjection to thermal stability testing and/or compression testing for buoyancy aids.
4. A foam material as claimed in any of claims 1 to 3, in which the side surfaces defining the slits and/or holes are normally in abutment and/or close proximity when the sheet is flat or unflexed and separate or press less against each other when flexed to allow air and/or water vapour to pass therethrough.
5. A foam material as claimed in any of claims 1 to 4, in which the slits or cuts each comprise at least two intersecting linear slits or so-called "cross-cuts".
6. A foam material as claimed in any of claims 1 to 5, in which the slits are in the form of slits or a cross, for example, an "X" or "+", or in the form of a "Y" or "V" or any other form which will allow the passage of water – vapour on flexing.

7. A foam material as claimed in any of claims 1 to 6, in which the closed cells or bubbles contain vapour or air.
8. A foam material as claimed in any of claims 1 to 7, in which the length and/or configuration and/or spacing of the slits or cuts are selected to achieve the required passage of water vapour or breathability as required.
9. A foam material as claimed in any of claims 1 to 8, in which each slit or cut is about 3 mm long and/or the foam material is in the region of approximately 2 mm to 6 mm thick depending on the buoyancy required.
10. A foam material as claimed in claim 9, in which the slits or cuts and/or holes are spaced at different intervals as required.
11. A foam material as claimed in any of claims 1 to 10, in which the sheet is regular or plain or normally planar (i.e. without any dome-like configurations, projections or extensions in the regions where the apertures are).
12. A fabric combination comprising a foam or other material as claimed in any of claims 1 to 11, in combination with an outer fabric sheet or layer.
13. A fabric combination as claimed in claim 11, in which the outer fabric sheet or layer is waterproof or waterproof and water-vapour permeable.
14. A garment whenever including a fabric combination as claimed in claim 12 or 13, wherein the foam material and outer fabric sheet are stitched or otherwise bonded together in peripheral regions leaving the foam and fabric sheet merely juxtaposed in other regions.
15. A method of making a closed cell foam material "breathable" or such as to enable air and/or water vapour to pass therethrough whilst at the same time

as not reducing the strength and/or the resilient characteristics as tested for in thermal stability and/or compression testing for buoyancy aid device regulations, comprises forming slits or cuts and/or needle-punched holes in the foam material such that no foam material is removed or only minimal foam material is removed in the process and the surfaces defining the slit and/or hole are normally in abutment or in close proximity, and selecting the size and/or spacing of the slits and/or punched holes as not to impair strength and/or resilient characteristics.

16. A flexible buoyant foamed plastics material having vapour or air filled bubbles or closed cells and having cuts or slits or piercings through the foam which do not involve removal of foam material or of only minimal amounts and which cuts or piercings in the unflexed condition of the foam are closed or substantially closed but which open on flexing of the foam such as to allow water vapour to pass through the foam.

17. A foam material as claimed in claim 16, in which the cuts or slits are elongate slits or "X" – shaped cuts or so called cross-cuts or slits.

AMENDED CLAIMS

[received by the International Bureau on 18 November 2003 (18.11.03),
original claims 1 to 17 replaced by new claims 1 to 14 (3 pages)]

1. A fabric combination comprising a flexible or pliable closed cell foam material in sheet form for forming at least part of a garment, wherein the foam material is buoyant in water and has one or more slits or cuts and/or needle-punched holes therein extending through the sheet from one surface to the other, and an outer fabric sheet or layer, which is waterproof or waterproof and water-vapour permeable, and characterized in that the foam material and outer fabric sheet are stitched or otherwise bonded together in peripheral regions leaving the foam and fabric sheet merely juxtaposed in other regions.
2. A fabric combination as claimed in claim 1, in which the slits or cuts and/or needle-punched holes are selected to be of a spacing and/or selected to be each of a shape and/or size and/or length as to minimize or not adversely affect the strength and/or shrinkage rate of the foam sheet such as regards the subjection to thermal stability testing and/or compression testing for buoyancy aids.
3. A fabric combination as claimed in claims 1 or 2, in which the side surfaces defining the slits and/or holes are normally in abutment and/or close proximity when the sheet is flat or unflexed and separate or press less against each other when flexed to allow air and/or water vapour to pass therethrough.
4. A fabric combination as claimed in any of claims 1 to 3, in which the slits or cuts each comprise at least two intersecting linear slits or so-called "cross-cuts".
5. A fabric combination as claimed in any of claims 1 to 4, in which the slits are in the form of slits or a cross, for example, an "X" or "+", or in the form of a "Y" or "V" or any other form which will allow the passage of water – vapour on flexing.

6. A fabric combination as claimed in any of claims 1 to 5, in which the closed cells or bubbles contain vapour or air.

7. A fabric combination as claimed in any of claims 1 to 6, in which the length and/or configuration and/or spacing of the slits or cuts are selected to achieve the required passage of water vapour or breathability as required.

8. A fabric combination as claimed in any of claims 1 to 7, in which each slit or cut is about 3 mm long and/or the foam material is in the region of approximately 2 mm to 6 mm thick depending on the buoyancy required.

9. A fabric combination as claimed in claim 8, in which the slits or cuts and/or holes are spaced at different intervals as required.

10. A fabric combination as claimed in any of claims 1 to 9, in which the sheet is regular or plain or normally planar (i.e. without any dome-like configurations, projections or extensions in the regions where the apertures are).

11. A method of making a fabric combination of an outer waterproof fabric sheet or layer and a closed cell foam material "breathable" or such as to enable air and/or water vapour to pass therethrough whilst at the same time as not reducing the strength and/or the resilient characteristics as tested for in thermal stability and/or compression testing for buoyancy aid device regulations, comprises forming slits or cuts and/or needle-punched holes in the foam material such that no foam material is removed or only minimal foam material is removed in the process and the surfaces defining the slit and/or hole are normally in abutment or in close proximity, and selecting the size and/or spacing of the slits and/or punched holes as not to impair strength and/or resilient characteristics, and stitching or otherwise bonding together the foam material and outer fabric sheet or layer in peripheral regions leaving the foam and fabric sheet/layer merely juxtaposed in other regions.

12. A combination of a waterproof fabric sheet or layer and a flexible buoyant foamed plastics material having vapour or air filled bubbles or closed cells and having cuts or slits or piercings through the foam which do not involve removal of foam material or of only minimal amounts and which cuts or piercings in the unflexed condition of the foam are closed or substantially closed but which open on flexing of the foam such as to allow water vapour to pass through the foam and in which the foam material and outer fabric sheet are stitched or otherwise bonded together in peripheral regions leaving the foam and fabric sheet merely juxtaposed in other regions.

13. A foam material as claimed in claim 12, in which the cuts or slits are elongate slits or "X" – shaped cuts or so called cross-cuts or slits.

14. A garment including a fabric combination comprising a flexible or pliable closed cell foam material in sheet form forming at least a part of a garment, wherein the foam material is buoyant in water and has one or more slits or cuts and/or needle-punched holes therein extending through the sheet from one surface to the other, and an outer fabric sheet or layer, which is waterproof or waterproof and water-vapour permeable, and characterized in that the foam material and outer fabric sheet are stitched or otherwise bonded together in regions so as to leave the foam and fabric sheet merely juxtaposed in other regions.